

CLAIMS:

WE CLAIM AS OUR INVENTION:

1. A chemical mechanical polishing pad comprising:  
a groove pattern disposed on a polishing surface of the pad, said groove pattern comprising an alternating sequence of spaced apart grooves, said alternating sequence of grooves comprising a groove of a first size and a groove of a second size, wherein the first and second groove sizes are different relative to one another.
2. The chemical mechanical polishing pad of claim 1 wherein a groove of the first size comprises a width that ranges from about 5 mils to about 10 mils.
3. The chemical mechanical polishing pad of claim 1 wherein a groove of the first size comprises a depth that ranges from about 1 mil to about 15 mils.
4. The chemical mechanical polishing pad of claim 1 wherein a groove of the second size comprises a width that ranges from about 10 mils to about 60 mils.
5. The chemical mechanical polishing pad of claim 1 wherein a groove of the second size comprises a depth that ranges from about 15 mils to about 60 mils.
6. The chemical mechanical polishing pad of claim 1 wherein said alternating sequence of grooves comprises a pitch that ranges from about 20 mils to about 80 mils.
7. The chemical mechanical polishing pad of claim 1 wherein said groove pattern affects distribution of a slurry between the polishing surface of the pad and a semiconductor wafer in engagement with said polishing pad, said distribution resulting in a relatively lesser amount of the slurry being used during a chemical mechanical polishing process.

8. The chemical mechanical polishing pad of claim 1 wherein the groove pattern is selected from the group consisting of a concentric groove pattern, an X-Y groove pattern, a radially extending groove pattern and a spiral groove pattern.

9. A chemical mechanical polishing system including a carrier for holding and moving a semiconductor wafer during a chemical mechanical polishing process, the polishing system comprising:

a rotatable platen; and

a chemical mechanical polishing pad supported by said platen, a groove pattern disposed on a polishing surface of the pad, said groove pattern comprising an alternating sequence of spaced apart concentric grooves, said alternating sequence of concentric grooves comprising a groove of a first size and a groove of a second size, wherein the first and second groove sizes are different relative to one another.

10. The chemical mechanical polishing system of claim 9 wherein a groove of the first size comprises a width that ranges from about 5 mils to about 10 mils.

11. The chemical mechanical polishing system of claim 9 wherein a groove of the first size comprises a depth that ranges from about 1 mil to about 15 mils.

12. The chemical mechanical polishing system of claim 9 wherein a groove of the second size comprises a width that ranges from about 10 mils to about 60 mils.

13. The chemical mechanical polishing system of claim 9 wherein a groove of the second size comprises a depth that ranges from about 15 mils to about 60 mils.

14. The chemical mechanical polishing system of claim 9 wherein said alternating sequence of concentric grooves comprises a pitch that ranges from about 20 mils to about 80 mils.

15. The chemical mechanical polishing system of claim 9 wherein said groove pattern affects distribution of a slurry between the polishing surface of the pad and a semiconductor wafer in engagement with said polishing pad, said distribution resulting in a relatively lesser amount of the slurry being used during a chemical mechanical polishing process.